

WORLD TRADE CENTER  
PORT AUTHORITY

ENGINEERING PROGRAM MANAGER  
WORLD TRADE CENTER  
CHIEF ELECTRICAL ENGINEER

1 8/23/99 AS-BID  
No. Date Revision Approved

ENGINEERING DEPARTMENT  
DESIGN DIVISION

WORLD  
TRADE  
CENTER

ELECTRICAL  
Title

FIRE ALARM SYSTEM  
DEVICE UPGRADE  
PHASE III  
1 WORLD TRADE CENTER  
CONTRACT NO. 3

45th FLOOR  
SPEAKER  
INSTALLATION AND  
REMOVAL PLAN

This drawing subject to conditions in Contract. All  
inventions, ideas, designs and methods herein are  
reserved to Port Authority and may not be used  
without its written consent.

S. FELDSTEIN E. KOTSKI A.S.  
Designed by Drawn by Checked by

AUGUST 9, 1999  
Date

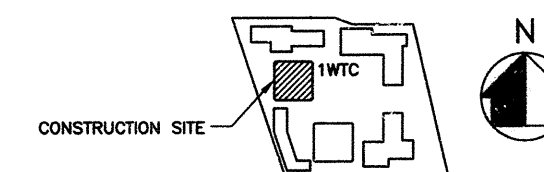
WTC-881.176 E-045-2  
Contract Number Drawing Number

# NOTES

1. FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES, SEE DWG. E-1.  
FOR INSTALLATION DETAILS, SEE DWG. E-2. FOR WIRING DIAGRAMS,  
SEE DWG. E-3.
2. DISCONNECTION OF EXISTING SPEAKER CIRCUIT AND CONNECTION  
OF INSTALLED SPEAKER CIRCUIT AT THE TSC AND/OR THE EXISTING  
SPEAKER SHALL BE MADE AFTER INSTALLED SPEAKER WIRING IS TESTED  
AND OPERATIONAL. THIS WORK SHALL BE DONE IN THE PRESENCE  
OF THE ENGINEER.
3. DISCONNECTION AND REMOVAL OF EXISTING TENANT AMPLIFIER AND  
ASSOCIATED CONDUIT AND WIRING UP TO THIS SPEAKER SHALL BE MADE  
AFTER INSTALLED SPEAKERS ARE TESTED AND OPERATIONAL. THIS WORK  
SHALL BE DONE IN THE PRESENCE OF THE ENGINEER.
4. CONTRACTOR SHALL REMOVE EXISTING SPEAKERS ONLY AFTER INSTALLED  
DEVICES ARE OPERATIONAL.
5. FOR REMOVAL AND PATCHING PLAN DETAILS (P-1, P-2, P-3 & P-4),  
SEE DWG. A-1.
6. ALL REMOVED SPEAKERS SHALL BE RETURNED TO THE ENGINEER.
7. ALIGN CENTER LINES OF SPEAKERS (ON WHICH WORK IS TO BE DONE  
IN THE CORRIDORS) TO THE CENTER LINE OF THE CORRIDOR. IN CASE  
OF CONFLICT WITH EXISTING CEILING LIGHTING AND GRILLS, FINAL  
LOCATION OF SPEAKERS SHALL BE ADJUSTED WITH THE APPROVAL  
OF THE ENGINEER.
8. SINCE FIRE ALARM CIRCUIT LENGTH IS CRITICAL, ROUTING AND  
INSTALLATION OF ALL FIRE ALARM CIRCUITS SHALL BE AS SHOWN  
ON DRAWING.
9. COORDINATE REMOVAL OF ALL SPEAKERS WITH ENGINEER. DISCONNECT  
AND ABANDON EXISTING SPEAKER CIRCUITS IN CEILING. TAPE ENDS OF  
ABANDONED CONDUCTORS AND TAG AS ABANDONED. THIS WORK SHALL  
BE DONE IN THE PRESENCE OF THE ENGINEER.

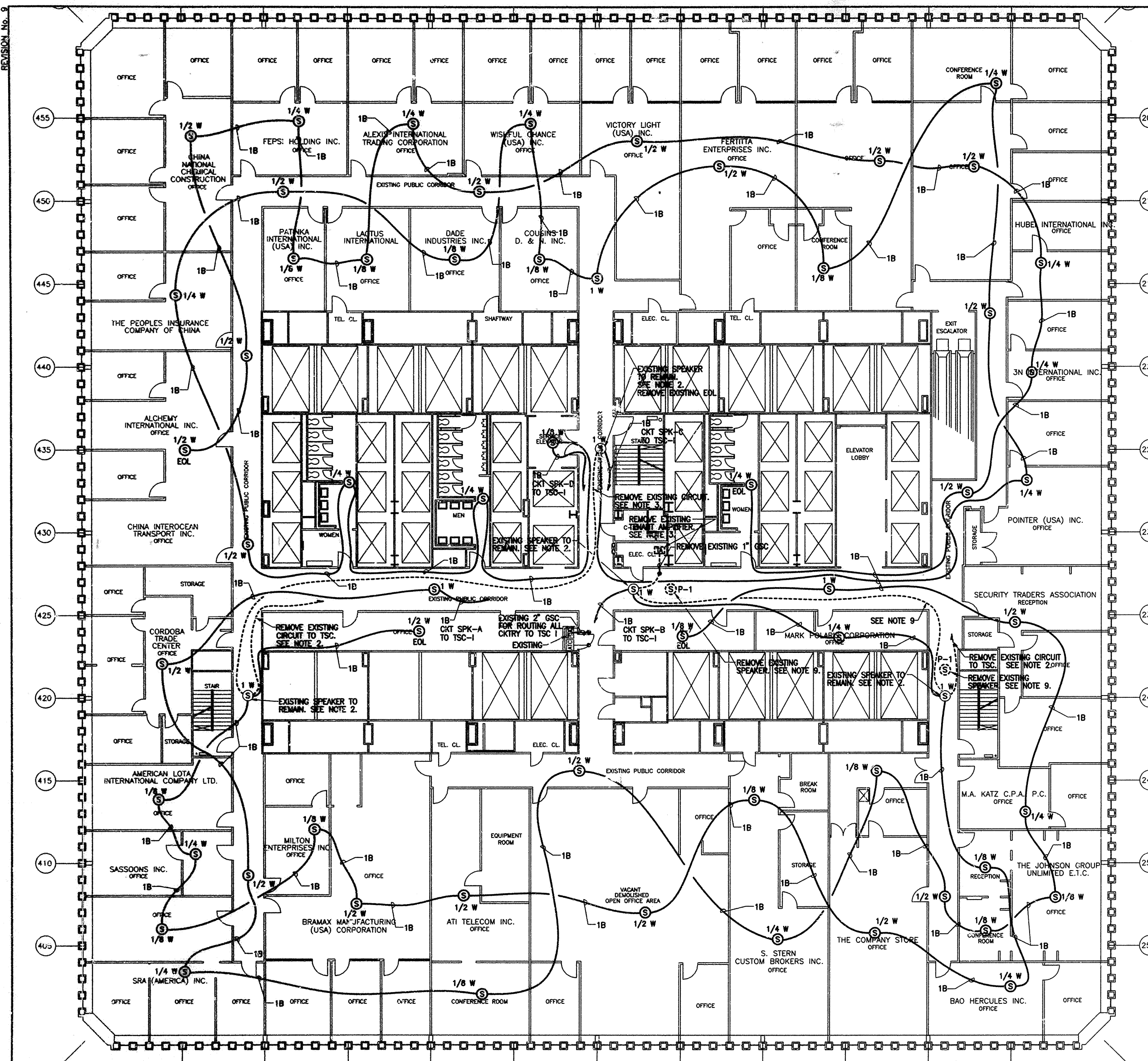
## SPEAKER CIRCUIT/LOADING TABLE

SPEAKER TAP/40 SETTING	Watts	1/8	1/4	1/2	1	2	4	TOTAL POWER (Watts)	CIRCUIT LENGTH (ft.)
QUANTITY OF SPEAKERS PER CIRCUIT	dB	75	78	81	84	87	90	5.875	704
SPK-A	5	3	5	2				6.875	591
SPK-B	5	3	5	3				6.250	617
SPK-C	2	4	8	1				5.250	738
SPK-D	4	7	4	1					
GRAND TOTAL								24.250	2650



KEY PLAN

0 12 24  
SCALE IN FEET



FILE NAME: Y:\WTC-881.176\176E-045-2.DWG plotted on 7/21/1999 by REUKESHIRE